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ABSTRACT

Results of a survey of international student exchange programs in the Bay Area of California are presented. Information is provided on the following: the top 10 countries of origin for Bay Area foreign students; 10 Bay Area institutions with the highest number of foreign students; 10 area institutions with the highest percent of full-time enrollment; percentage of area foreign students by type of institution; percentage of foreign students in engineering, computer science, and business; source of financial support for area foreign students; and source of financial support for area foreign students per category of institution. Findings include the following: foreign students in the Bay Area number 14,410, or 27 percent of California's total; foreign students represent over 159 countries; Iran (prerevolution), Taiwan, and Japan have more students in the Bay Area than any other countries; Hong Kong is a close fourth and Canada is fifth; University of California at Berkeley and Stanford University lead the list of Bay Area university foreign student enrollments; graduate students constitute 45 percent of foreign student enrollments in Bay Area universities; business, engineering, and computer science attract the largest numbers of foreign students; and foreign students spend about $150 million annually in the Bay Area. (SW)

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THE WORLD'S STUDENTS IN BAY AREA UNIVERSITIES

A Joint Project of
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Global Perspectives in Education, Inc.

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THE WORLD'S STUDENTS
IN BAY AREA UNIVERSITIES

Susan J. Duggan and Peter A. Wollitzer

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LIST OF TABLES

TOP 10 COUNTRIES OF ORIGIN FOR BAY AREA FOREIGN STUDENTS.....2

TEN BAY AREA INSTITUTIONS WITH THE HIGHEST NUMBER OF FOREIGN STUDENTS.....3

TEN BAY AREA INSTITUTIONS WITH THE HIGHEST PERCENT OF FULL TIME ENROLLMENT.....4

PERCENTAGE OF BAY AREA FOREIGN STUDENTS - BY TYPE OF INSTITUTION.....5

PERCENTAGE OF FOREIGN STUDENTS IN ENGINEERING, COMPUTER SCIENCE, & BUSINESS.....5

SOURCE OF FINANCIAL SUPPORT FOR BAY AREA FOREIGN STUDENTS.....7

SOURCE OF FINANCIAL SUPPOKT FOR BAY AREA FOREIGN STUDENTS PER CATEGORY OF INSTITUTION.....8

Preface

Foreign student population in the United States is projected by some estimates to climb from the current record level of 325,000 to 1,000,000 by the year 2,000[1]. More conservative estimates put the number closer to 600,000 of which the Bay Area's share would be some 26,000 foreign students; an increase of 80% over the 1981-82 level of 14,410. This projected increase will take place during a period when the traditional college age population in the U.S. continues to decline. Where will these students from other countries study, how will their needs be accommodated, and how may their presence affect the Bay Area and its institutions of higher education?

Most Bay Area residents do not think much about these issues. However, as the authors of the recent report Absence of Decision (New York; Institute of International Education, 1983) note:

> During the 1980s and beyond the foreign student in the United States is likely to become an increasingly significant force in economic, educational, political and social terms. Up to now absence of decision has more often than not characterized the approach to the issue. This is a luxury, like many others, that we are no longer able to afford.

Anticipating the growing importance of this issue and recognizing the lack of foreign student information specific to the San Francisco Bay Area, the Bay Area and the World Project set out to gather the basic information that is needed to initiate and inform local public discussion: how many foreign students do we have? from

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[1] Foreign Students and Institutional Policy: Toward an agenda for action. Washington, D.C.: American Council on Education, 1982

where? where are they? what are the studying? how are they supported? how does their presence affect the Bay Area? These are, we believe, the first answers that anyone will seek as they begin to think about what foreign students mean to us and what our Bay Area colleges and universities mean to education seekers from around the world.

This report answers such fundamental local questions, but it does not reintroduce complex policy issues that are treated at length in two recent reports: the "Berendzen Report" from the American Council on Education and Absence of Decision from the Institute of International Education (see p. 11 for citation and address). It is our recommendation that this Bay Area foreign student overview be read in conjunction with these current policy reports. Additionally, recent articles in the national press have explored divergent Soviet and American views on the long-term value of training tomorrow's foreign leaders (see New York Times Magazine, 3-20-83: "Selling America in the Marketplace of Ideas" by Richard N. Gardner). Finally, the recent Bay Area and the World Project report entitled Beyond National Boundaries: An International Profile of the University of California, Berkeley sheds light on foreign student issues as well.

Why is it important for the general public to concern themselves with foreign students? To many people at first glance, foreign students represent a drain on increasingly scarce higher education resources in the Bay Area. A frequent first reaction is to want to stem the foreign student tide: to preserve these resources for American youth. On reflection, however, this may be unjustified.

It is rare for a qualified California student to be turned away because a foreign student was admitted. Moreover, many significant long and short term benefits of educating foreign students become readily apparent when one looks beyond first impressions. Several of the important benefits, as well as some underutilized potential benefits, are addressed later in this report. When such benefits are identified and considered alongside the costs, foreign student presence and impact in the Bay Area emerges as an important aspect of local international affairs: one which merits the attention and participation of those who live in the Bay Area and who shape its future. The Bay Area and the World Project is pleased to provide this initial stimulus to a locally-focussed discussion of foreign student issues.

The Bay Area and the World Project was initiated in 1981 for the primary purpose of developing and disseminating useful information about the expanding international relationships of the San Francisco Bay Area and about their important regional impacts. The basic aim of the Project is to facilitate and encourage public understanding of these relationships, and to help bring about stronger individual and institutional competence in handling the Bay Area's public and private international affairs.

The Project is grateful to Susan J. Duggan, doctoral student at Stanford University for the basic research and drafting of this report. Our sincere thanks as well to the many foreign student advisors, university registrars, and others without

whom the elusive data we sought could not have been collected. Finally, we wish to recognize the contributions made not just to this brief report but to the larger field of international education in the Bay Area by A. Lee Zeigler of the Bechtel International Center (Stanford University), Marvin Baron of the University of California, Berkeley, and Carl Zachrisson, Jr. of the Institute of International Education (San Francisco).

Funding for this report as part of the Bay Area and the World Project was provided by the William and Flora Hewlett Foundation. Final responsiblity for its contents rests with the Bay Area and the World Project.

Peter A. Wollitzer
Executive Director

HOW MANY FOREIGN STUDENTS AND FROM WHERE?*

California leads the nation in total number of foreign students and foreign student expenditures, with 51,520 students or 16% of the nation's 326,299 foreign student total. This is nearly twice as many foreign students as the second ranked state, New York, with 28,222 or 8.6% of the national foreign student total. In Bay Area colleges and universities alone, there were over 14,000 foreign students in the 1981-82 period: 27% of California's total. Foreign students in the U.S. represent 159 nationalities from around the world, with growing numbers in the Bay Area from our major trade partners in the Pacific Basin.

The ten countries which send the largest numbers of students to Bay Area universities are listed below in Table I. Iran is a special case because, although it was the largest supplier of foreign students to the U.S. before the 1979

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* Methodological note. Data for this report comes from two sources: the Institute of International Education (NY) and a Bay Area and the World Study. Most data are taken from the latter source unless otherwise noted. The Bay Area and the World study involved 39 local institutions of higher education which enrolled at least 50 foreign students according to the 1981-82 census of colleges by the Institute of International Education and the National Association of Foreign Student Affairs. Thirty-five institutions (90%) provided usable responses in the form of telephone interviews and/or personal interviews. Written documentation was also used whenever it was available. Data from both sources, IIE and the BAWP study, reflect 1981-82 statistics unless otherwise noted. BAWP data are based on a nine county definition of the Bay Area: San Francisco, San Mateo, Marin, Contra Costa, Napa, Alameda, Santa Clara, Sonoma, and Solano. IIE data covers the same counties, plus Santa Cruz county.

revolution, it no longer actively sends students to this country. Venezuela, currently ranked eleventh in the Bay Area, had 370 students in local universities in 1981-82.

-Table I-

Top 10 Countries of Origin for Bay Area Foreign Students (1981-82)

Country	Rank	Number of Students
Iran	1	1755
Taiwan (ROC)	2	1267
Japan	3	1227
Hong Kong	4	964
Canada	5	547
Philippines	6	491
South Korea	7	470
China (PRC)	8	410
Indonesia	9	408
United Kingdom	10	371
India	10	371

Source: Institute of International Education

In general, the students from each country are distributed evenly throughout the area's colleges and universities. In certain cases, large numbers of students are concentrated on one campus. Canada, for example, is the leading source of foreign students at Stanford University (with 10% of that university's foreign student population). Yet, Canada has little representation at smaller schools and community colleges in the Bay Area.

Table II shows the ten colleges with the highest enrollment of foreign students. In most of these cases (excluding Lincoln University and the University of San Francisco) foreign students comprise a relatively small proportion of the total student body.

-Table II-

TEN BAY AREA INSTITUTIONS

WITH HIGHEST NUMBERS OF FOREIGN STUDENTS, 1981-82

Institution	Number of Foreign Students	% of Total Enrollment	% of Full Time Enrollment
1. U.C. Berkeley	1860	6.3	6.8
2. Stanford	1739	12.8	15.0
3. U.S.F.	1300	22.8	32.0
4. San Jose State	1000	3.3	7.0
5. San Francisco State	945	3.9	7.0
6. U. of Santa Clara	413	5.9	9.2
7. Lincoln University	387	70.6	99.0
8. City College of S.F.	331	.4	4.2
9. Golden Gate Univ.	323	3.0	17.6
10. Cal. State Hayward	312	2.7	4.6

Table III provides a ranking of Bay Area institutions by the percentage of foreign students enrolled. The ranking is based on foreign students as a percentage of the school's full-time enrollment because most foreign students do attend full-time. Figures are also provided for foreign students as a percentage of total institutional enrollment, which includes part-time students. Generally, small liberal arts or specialized colleges have a higher proportion of foreign students. The University of San Francisco (USF), a large university, provides a notable exception with a sizeable 32% of full-time enrollment (22.8% of total enrollment) coming from other countries.

-Table III-

TEN BAY AREA INSTITUTIONS

WITH HIGHEST PERCENTAGE OF FOREIGN STUDENTS, 1981-1982

Institution	% of Full Time Enrollment	% of Total Enrollment	Number of Foreign Students
1. Lincoln Univ.	99.0	70.6	387
2. Cogswell College	45.2	38.3	192
3. Holy Names College	43.1	25.2	171
4. U.S.F.	32.0	22.8	1300
5. S.F. Art Institute	26.4	18.3	123
6. Menlo College	22.0	21.8	140
7. Calif. College of Arts & Crafts	17.7	13.7	159
8. Golden Gate Univ.	17.6	3.0	323
9. Stanford	15.0	12.8	1739
10. Dominican College	14.2	9.8	60

Graduate students comprise approximately 45% of Bay Area's foreign students. Within that group, 58% are concentrated in the two major research universities: Stanford University and U.C. Berkeley. The remaining 42% of foreign graduate students are distributed among the area's many comprehensive universities and four year colleges, with large groups at San Jose State University (500); University of Santa Clara (304); San Francisco State University (194); and Golden Gate University (114).

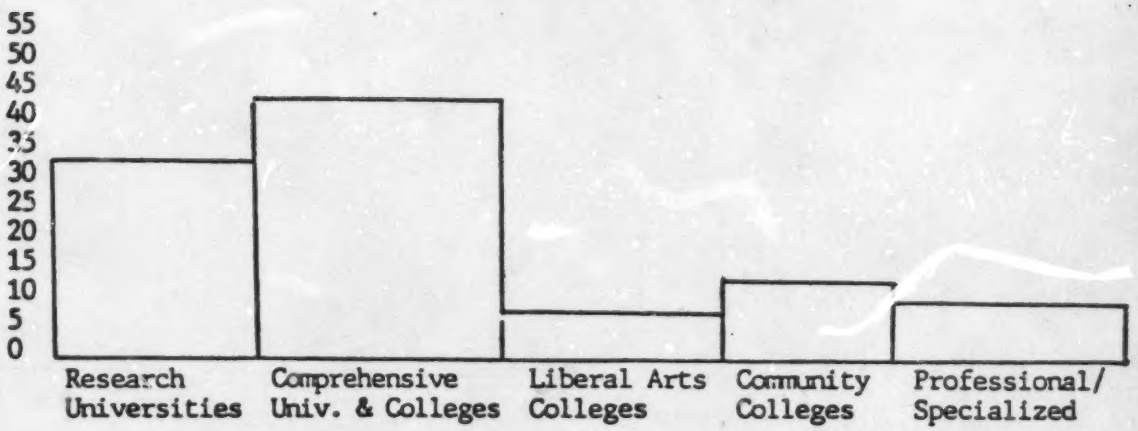
Undergraduates are distributed across the entire sample of colleges and universities; and account for approximately 55% of foreign student enrollments. The majority (52%) of undergraduates study in one of the eight comprehensive universities and colleges. Twenty percent of undergraduate foreign students study in community colleges throughout the Bay Area. Table IV portrays the combined distribution of undergraduates and graduates by type of institution.

Table IV

PERCENTAGE OF BAY AREA FOREIGN STUDENTS

(GRADUATE AND UNDERGRADUATE)

BY TYPE OF INSTITUTION, 1981-1982



AREAS OF STUDY

Business, engineering, and computer science attract the largest numbers of foreign students at the institutions reporting figures to Bay Area and the World. Overall, approximately one third of Bay Area foreign students were in business programs and more than one third were in engineering. (See Table V)

- Table V -

AVERAGE PERCENTAGE OF FOREIGN STUDENTS (GRADUATE AND UNDERGRADUATE) IN ENGINEERING, COMPUTER SCIENCE, BUSINESS PROGRAMS

	Research Univ.	Comprehensive Univ.& Coll.	Liberal Arts	Community Coll.	Professional/ Specialized
Engineering	37.0%	36.0%	Not Available	35.5%	79.0%*
Computer Science	6.0%	16.5%	Not Available	16.0%	----
Business	6.0%	28.0%	37.5%	28.0%	63.0*

*This figure is for the only institution in the category of professional/ specialized and therefore is not an average percentage.

Community colleges provide increasingly important opportunities for those foreign students interested in completing two years of general coursework and prerequisites for specialized fields of study. Although 9 out of 15 community colleges responding to this survey were unable to provide exact figures, each of the nine colleges indicated engineering, computer science, and business as having the highest concentration of foreign students seeking to transfer to a four year college.

Outside the fields of engineering, computer science, and business, students disperse throughout many fields. Stanford University and UC Berkeley attract foreign students in as many as 80 different areas of study. In the comprehensive universities and colleges, and the in community colleges, only 20% percent of foreign students on average study in fields other than engineering, computer science or business. Limited offerings in engineering and computer science in many liberal arts colleges may explain the low 6% of Bay Area foreign students enrolled in such colleges.

ECONOMIC IMPACT

Direct Impact

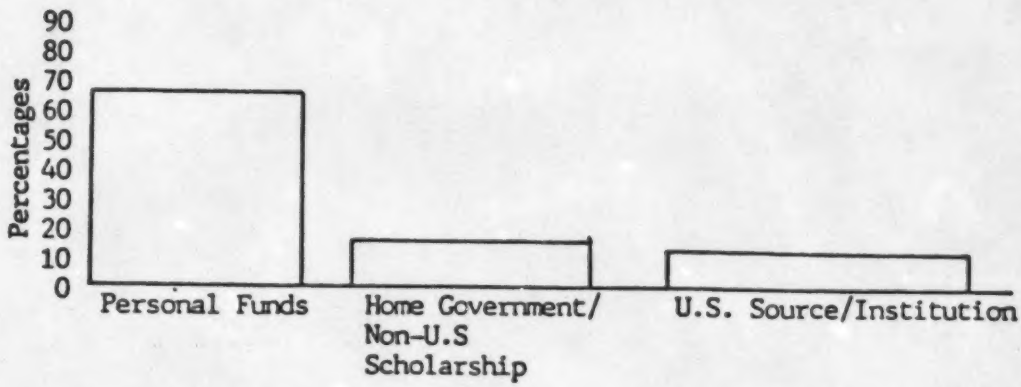
Foreign students in the Bay Area spend approximately $150 million annually. Some one-half million dollars for each day of the academic year. One third to one half of that amount is spent locally on living expenses alone -- housing, food, books and supplies, entertainment, transportation, insurance.[1]

[1] Estimates based on 1981-82 expenditure statistics from this survey and on total Bay Area foreign enrollment statistics from IIE.

Sixty-nine percent of foreign students in the Bay Area and the World survey rely on personal and family funds to support their studies in the Bay Area. Of the remaining students, 16% receive support from home governments or non-U.S. scholarships (foreign companies and foundations). Only 15% receive support from U.S. sources. Estimating very conservatively and allowing for a 20% possible error in the reporting of income sources, these figures still mean that over $100 million of the estimated $150 million purchased annually in local goods and services can be thought of as a net gain for the Bay Area economy. Nationally, four out of every five foreign students (80%) have their primary source of funds in personal resources, family support, or home government stipends.

Table VI

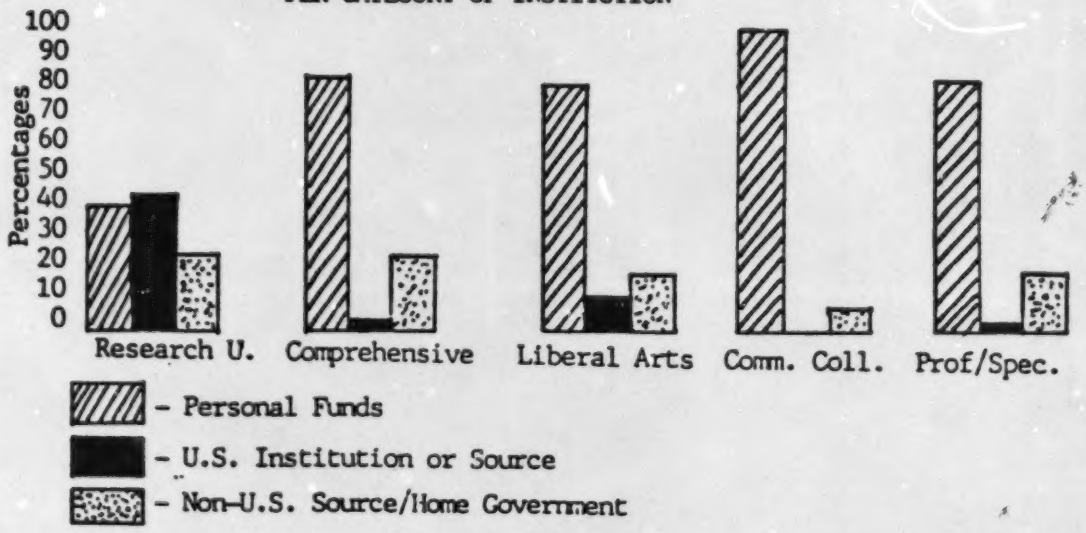
SOURCE OF FINANCIAL SUPPORT FOR BAY AREA FOREIGN STUDENTS



The percentage of foreign students at Stanford and Berkeley who receive financial assistance on campus in the form of teaching assistantships, research assistantships, and some scholarships is substantially higher that the 15% Bay Area average cited above. At Stanford, 49% receive these kinds of financial assistance vs. 51% who are supported from

non-U.S. sources. At Berkeley, 32% receive university assistantships or scholarships, and 68% are supported from outside the U.S. Table VII portrays patterns of financial support by type of institution.

Table VII
SOURCE OF FINANCIAL SUPPORT FOR BAY AREA FOREIGN STUDENTS
PER CATEGORY OF INSTITUTION



Another important form of direct impact is that in many institutions, especially smaller schools, foreign students are filling capacity that was built up in the booming 1960's and cannot now be filled with American students. Admitting qualified foreign students to fill this current and projected over-capacity means that a greater range of academic programs can be maintained for all students, faculty jobs can be preserved, and in some cases a college can survive rather than fail. As long as colleges admit only qualified foreign students and provide legitimate academic programs and student services for them, positive impacts of these kinds will be felt in the Bay Area through the year 2000.

Indirect Impact

Foreign students in Bay Area universities represent far more than a source of revenue for local business or a source of tuition for local colleges and universities. Some of the longer-term indirect benefits or possible benefits of educating foreign students in our universities are the following:

-the higher education of foreign students in this country and in the Bay Area is a growing "export industry" at a time when exports and the favorable trade balances they help to generate are needed. Foreign students currently spend over 150 million annually in the local Bay Area economy with minimally 100 million of that revenue coming from foreign sources

-the rapidly developing economies of Asia as well as developing economies in many Third World countries require appropriately educated manpower to fuel and manage economic development; well-managed economic development, in turn, helps to stabilize world economic and political relations

-students who study in the United States are highly selected and very often they return home to assume positions of influence and leadership in government, business, education, and the media. For example, M. Nyngai, a Stanford medical student in the '50's is now serving as a cabinet minister in Kenya; Sadako Ogata, graduate of UC Berkeley was Minister of the Japanese Permanent Mission to the United Nations; and Joao-Baptista Pinheiro, another Berkeley graduate, has served as ambassador from Brazil to the United States. The professional frame of reference and personal orientation of such individuals is often to their U.S. colleagues,

alma maters, and professional associations. Moreover, foreign students who return home to enter business very frequently become major purchasers of U.S. equipment and services because U.S. suppliers and products are more familiar to them. How often or extensively these influences "pay off" for the United States has yet to be determined, but they do exist and their effects are significant. Also significant is the certain knowledge that the Soviet Union currently outspends the U.S. 40 to 1, for example, on scholarships for African students and 18 to 1 on scholarships for Latin Americans (Christian Science Monitor, 5-18-83: "Studying Abroad: Another Field Where East, West Compete")

-many of the world's brightest students, having studied here, stay here to enter professional life if they qualify under U.S. immigration law as possessing critical skills needed in our economy or if they qualify for other special categories. This phenomenon is know as brain drain or brain gain, depending on one's point of view. It is a complex matter encompassing issues as diverse as individual freedom of movement and appropriate technology for developing nations. One clear form of brain gain for the U.S. is that U.S. engineering schools, unable to compete with industry salaries for U.S. engineers, are increasingly dependent upon their own graduating foreign students to train growing numbers of U.S. and foreign engineering students. Currently, 50% of all U.S. engineering Ph.D. degrees are awarded to foreign students. The current U.S. shortage of engineers, a shortage of 25,000 per year according to the American Electronics Association, would be far more acute without the brain gain to U.S. engineering schools.

A recent article in San Francisco Business Journal (6-6-1983) states that one third of San Jose State University's 90 high tech professorships are now vacant causing that university to cap enrollment in electrical engineering at 4000 students. Half of the existing faculty there are also due for retirement, exacerbating the problem further. Nationwide, one engineering faculty position in ten is open and unfilled.

-finally, foreign students in our universities represent a vast if poorly utilized resource for our own students and local community. In addition to providing important international perspectives in the classroom and personal international contacts outside of class, foreign students can be effectively used to assist local schools, businesses. and community organizations. At Stanford, foreign students help teach local high schoolers cross-cultural perspectives in a program called "Experience Another Culture." A Speaker's Bureau of foreign students has also been established at Stanford to benefit the local community. At a time when the U.S. is concerned about educating for international competitiveness, these resources can have large impacts in the long term.

Because foreign students are frequently advanced professionals, often on leave from professional or business positions in their own countries, they are a potentially valuable source of consultation for local companies doing business or wishing to do business with those countries. Foreign graduates of local universities also provide local multinational companies with an

obvious source of talent for their overseas positions--one which could be highly profitable to a locally based multinational. This international connection might be even more valuable if the foreign student had served an internship in the parent company here before assuming responsibilities in a subsidiary or branch overseas

Unfortunately, longer-term potential economic benefits of this kind have been largely ignored and therefore have not materialized. The potential positive economic impacts of foreign students are certainly greater than actual impacts have been.

Summary and Conclusion

The principal findings of this study are the following:

-Foreign students in the Bay Area number 14,410: 27% of California's total, 4.4% of the U.S. total. They represent over 159 countries.

-Iran (pre-revolution), Taiwan, and Japan have more students in the Bay Area than any other countries; Hong Kong is a close fourth and Canada fifth.

-UC Berkeley and Stanford University lead the list of Bay Area university foreign student enrollments with 1860 and 1739, respectively. Lincoln University has the highest percentage, with 99% of full time enrollment (387).

-Graduate students constitute 45% of foreign student enrollments in Bay Area universities; 58% of those are at Berkeley and Stanford.

-Business, engineering, and computer science attract the largest numbers of foreign students. Together these fields account for approximately two thirds of all foreign students in the Bay Area.

-Foreign students spend approximately $150 million annually in the Bay Area. With close to 95% of that revenue reported to originate outside the United States, over $100 million can be conservatively estimated as a net gain. Indirect positive economic impacts of Bay Area foreign students, while not quantified, could be far more substantial with better utilization of the Bay Area's foreign student resources.

Because two recent comprehensive treatments of issues, policies, and impacts of foreign students are readily available, policy aspects of foreign student presence in the Bay Area were not repeated in detail in this report. The two comprehensive reports are:

Absence of Decision which is available from the Institute of International Education, 809 United Nations Plaza, New York, NY 10017, 212-883-8200 and 312 Sutter Street, San Francisco, CA 94108, 415-362-6520

Foreign Students and Institutional Policy: Toward an agenda for action which is available from the American Council on Education, 1 Dupont Circle, N.W., Washington, D.C. 20036, 202-822-4950.

The present Bay Area and the World report on foreign student presence and impact should be considered an extension of these two existing, comprehensive reports.

Beyond a doubt, the Bay Area is materially and very significantly involved in foreign student issues. Foreign students are an important intellectual, cultural, and economic resource for the Bay Area yet, their role here is poorly understood and their potential is largely

ignored. In bringing the presence and impact of this hidden resource to light, we hope to open the door to far greater mutual benefit than is now being realized from the world's students in Bay Area Universities.